

REMARKS

Claims 40, 50, 51 and 54-63 are pending in the application.

Claims 40, 50-51 and 54-63 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited combinations of the following references: "Development of a submicrometer-grained microstructure in aluminum 6061 using equal channel angular extrusion" (Development); Metals Handbook; Park (U.S. Patent No. 4,589,932); Bunn (U.S. Patent No. 6,192,969); and "Stress-Release Heat Treating of Steel" (Stress-Relief). The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 40, 50-51 and 54-63 are allowable over the various cited combinations of Development, Metals Handbook, Stress-Relief, Park and Bunn for at least the reasons that the references, individually or as combined, fail to disclose or suggest each and every element in any of those claims.

Each of independent claims 40, 54 and 63 recites processing a material to produce a disk, removing portions of the disk to produce a billet and subsequently processing the billet by performing at least one pass through equal channel angular extrusion processing. As acknowledged by the Examiner's indication of allowability set forth in the Office Action dated May 23, 2005, Development, Metals Handbook, Stress-Relief and Park, individually or in combination, fail to disclose or suggest the recited producing a disk, removing portions of the disk to produce a billet and processing the billet by performing equal channel angular extrusion.

In the present Action the Examiner indicates reliance upon Bunn as disclosing removal of portions of a billet to form a final shape of a sputtering target (relying upon the Bunn disclosure at column 1, lines 37-40). Referring to the Bunn disclosure at the cited location applicant notes that Bunn specifically indicates initially having a billet and cutting the billet to form disks for use as sputtering targets. In contrast, each of independent claims 40, 54 and 63 specifically indicates having a disk and removing portions of the disk to produce a billet. Each of claims 40, 54 and 63 additionally specifically indicates subsequent processing including equal channel angular extrusion of the billet. Accordingly, the Bunn disclosure of cutting billets to form disks for use as targets does not contribute toward suggesting the claims 40, 54 and 63 recited removal of portions of a disk to produce a billet and subsequent ECAE processing.

Since the claims 40, 54 and 63 recited producing a disk, removing portions of the disk to produce a billet and subsequent ECAE processing is not disclosed or suggested by the combination of Development, Metals Handbook, Stress-Relief and Park, and since Bunn does not contribute toward suggesting these recited elements, independent claims 40, 54 and 63 are not rendered obvious by the various cited combinations of Development, Metals Handbook, Stress-Relief, Park and Bunn and are allowable over these references.

Dependent claims 50-51 and 55-62 are allowable over the various cited combinations of Development, Metals Handbook, Stress-Relief, Park and Bunn for at least the reason that they depend from corresponding allowable base claims 40, 54 and 63.

For the reasons discussed above, pending claims 40, 50-51 and 54-63 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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